

CLAIMS

What is claimed is:

1. A dual band radio receiver comprising:
a local oscillator configured to generate a Local Oscillator (LO) signal;
a first mixer device configured to receive said LO signal and a first Radio Frequency (RF) signal included within a first band and responsively to output a first Intermediate Frequency (IF) signal;
a second mixer device configured to receive said LO signal and a second RF signal included within a second band and responsively to output a second IF signal;
and
wherein said local oscillator is configured to operate within a third band located between said first and second bands.

2. The dual band radio receiver of claim 1 further comprising first and second IF filters and a switching device coupled thereto, wherein said first and second IF filters are coupled to said first and second mixer devices respectively.

3. The dual band radio receiver of claim 2 further comprising a control circuit coupled to said local oscillator device and to said switching device.

4. The dual band radio receiver of claim 1 wherein said first band is substantially within approximately a frequency range of 1.910 GHz and 1.930 GHz.

5. The dual band radio receiver of claim 1 wherein said second band is substantially within approximately a frequency range of 2.40 and 2.4835 GHz.

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6. The dual band radio receiver of claim 1 wherein said third band is substantially between approximately 2.155 GHz and 2.2385 GHz.

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1 7. The dual band radio receiver of claim 1 wherein said third band is positioned
2 approximately half-way between said first and second bands.

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8. A system comprising:

a transmitter circuit; and

a dual band radio receiver coupled to said transmitter, said dual band radio receiver including

a local oscillator configured to generate an LO signal;

a first mixer device configured to receive said LO signal and a first RF signal included within a first band and responsively to output a first IF signal,

a second mixer device configured to receive said LO signal and a second RF signal included within a second band and responsively to output a second IF signal, and

wherein said local oscillator is configured to operate within a third band positioned between said first and second bands.

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9. The system of claim 8 further comprising first and second IF filters and a switching device coupled thereto, wherein said first and second IF filters are coupled to said first and second mixer devices respectively.

10. The system of claim 9 further comprising a control circuit coupled to said local oscillator device and to said switching device.

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1 11. The system of claim 8 wherein said first band is substantially within
2 approximately a frequency range of 1.910 GHz and 1.930 GHz.

1 12. The system of claim 8 wherein said second band is substantially within
2 approximately a frequency range of 2.40 and 2.4835 GHz.

1 13. The system of claim 8 wherein said third band is substantially between
2 approximately 2.155 GHz and 2.2385 GHz.

1 ¹² 14. The system of claim ⁷ 8 wherein said third band is positioned approximately
2 half-way between said first and second bands.

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1 15. In a dual-band radio receiver configured to receive Radio Frequency (RF)
2 signals within first and second bands, a method for converting an RF signal into an
3 IF signal, the method comprising the steps of:
4 a) determining whether said RF signal belongs to one of a first and a second
5 bands; and
6 b) if said RF signal belongs to one of said first and second bands generating said
7 IF signal by mixing said RF signal with a LO signal belonging to a third band located
8 between said first and second bands.

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10 ¹⁴ 16. The method of claim ¹³ 15 wherein said step b) includes the step of:
11 if said RF signal belongs to said first band, driving said RF signal and said LO
12 signal to a first mixer device.

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16 ¹⁵ 17. The method of claim ¹³ 15 wherein said step b) includes the step of,
17 if said RF signal belongs to said second band, driving said RF signal and said
18 LO signal to a second mixer device.

19 ¹⁶ 18. The method of claim ¹³ 15 wherein said third level is substantially half-way
2 between said first and second bands.

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